STATE FOREST LAND
ENVIRONMENTAL CHECKLIST

Purpose of Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decided whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can. *Questions in italics are supplemental to Ecology's standard environmental checklist. They have been added by the DNR to assist in the review of state forest land proposals. Adjacency and landscape/ watershed-administrative-unit (WAU) maps for this proposal are available on the DNR internet website at http://www.dnr.wa.gov under "SEPA Center." These maps may also be reviewed at the DNR regional office responsible for the proposal. This checklist is to be used for SEPA evaluation of state forest land activities.*

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later. *All of the questions are intended to address the complete proposal as described by your response to question A-11. The proposal acres in question A-11 may cover a larger area than the forest practice application acres, or the actual timber sale acres.*

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered " does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NON PROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer" and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable:

   Timber Sale Name: **Spider** *Agreement #:* **30-084781**

2. *Name of applicant*: **Washington State Department of Natural Resources**

3. Address and phone number of applicant and contact person:

   Marcus Johns
   Pacific Cascade Region
   601 Bond Road
   PO Box 280
   Castle Rock, WA 98611-0280

4. Date checklist prepared: **July 20, 2009**

5. Agency requesting checklist: **Washington State Department of Natural Resources**

6. Proposed timing or schedule (including phasing, if applicable):

   a. *Auction Date:* **3/25/2010**
   b. *Planned contract end date (but may be extended):* **10/31/2011**
   c. *Phasing:* **None**

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

   Timber Sale

   a. *Site preparation:*

      Slash may be piled to ensure sufficient plantable spots and the site may be aerially sprayed to reduce initial competing vegetation.

   b. *Regeneration Method:*

      Units may be hand planted to meet or exceed the minimum Forest Practices' regulations. Some natural regeneration is expected.

c. *Vegetation Management:*

Vegetation management needs will be assessed from plantation ages 3 to 8. Vegetation control activities will occur as needed.

d. *Thinning:*

Pre-commercial thinning needs will be assessed at approximately 7-15 years of age. Commercial thinning potential will be assessed at approximately 25 years of age.

Roads:

Roads remaining at the termination of the sale will be used for future forest management activities. Road maintenance and periodic ditch and culvert cleanout will occur as necessary.

Rock Pits and/or Sale:

None.

Other:

Landing slash piles may be burned following harvest activities. Firewood or slash salvage may occur after harvest activities.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

☒*303 (d) – listed water body in WAU:* ☒*temp* ☐*sediment* ☒*completed TMDL (total maximum daily load):* **In the Upper Chehalis/Rock Creek WAU, 303(d) waters were identified from data taken in 2004. The map dated 2008 provided by DOE at their web site** (http://apps.ecy.wa.gov/wqawa/viewer.htm) **no longer identifies the streams as 303(d) listed for the Upper Chehalis/Rock Creek WAU.**
☐*Landscape plan:*
☐*Watershed analysis:*
☐*Interdisciplinary team (ID Team) report:*
☒*Road design plan:* **Available at the Pacific Cascade Region office.**
☐*Wildlife report:*
☐*Geotechnical report:*
☒*Other specialist report(s):* **MM Variance dated 11/3/2009 and Archeologist Report dated 9/29/2009.**
☐*Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):*
☐*Rock pit plan:*
☒*Other:* **Spotted owl habitat mapping, marbled murrelet habitat maps, Forest Practices Activity Maps, WAU maps for rain-on-snow areas, Policy for Sustainable Forests (PSF, December, 2006), State Soil Survey, Habitat Conservation Plan (HCP, January, 1997), HCP Checklist, Weighted Old Growth Habitat Index (WOGHI), Planning and Tracking Special Concerns Report and associated maps.**

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

None known.

10. List any government approvals or permits that will be needed for your proposal, if known.

☒*HPA* **Blanket HPA (control# 103081-1)** ☒*Burning permit* ☐*Shoreline permit*
☒*Incidental take permit* **1168 and PRT B 812521** ☒*FPA* **#2920313** ☐*Other:*

11. Give brief, complete description of our proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include specific information on project description.)

a. *Complete proposal description:*

Unit	Proposal Acres	RMZ/WMZ Acres	Sale Acres	Leave Tree Acres	Harvest Acres
name	*gross*			*clumped acres*	*net*
1	68	12	56	5	51
2	143	52	91	7	84
R/W	2				2
Totals	213	64	147	12	137

Rock will be obtained from a commercial source

b. *Timber stand description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives.*

Type of Harvest:
This proposal involves the variable retention harvest of 137 acres.

Overall Unit Objective:
The overall objectives for these forest management units includes regenerating a new stand and generating revenue for the Trusts through the production of saw logs, poles, and pulp material while manipulating the stand to maintain wildlife habitat by developing vertical stand structure and age class distribution in the future stand.

Pre-harvest Stand Description:

Unit	Age	Species Composition
1	**70-years-old**	**Overstory**: Douglas-fir, western hemlock, western red cedar, Sitka spruce, red alder and bigleaf maple. **Understory:** sword fern, lady fern, maiden hair fern, huckleberry, Oregon oxalis, vine maple, hazel, red elderberry, devil's club, salal, Oregon grape, salmonberry, cascara.
2	**70-years-old**	**Overstory:** Douglas-fir, western hemlock, western red cedar, Sitka spruce, red alder and bigleaf maple. **Understory:** sword fern, lady fern, maiden hair fern, huckleberry, Oregon oxalis, vine maple, hazel, red elderberry, devil's club, salal, Oregon grape, salmonberry, cascara.

c. *Road activity summary. See also forest practice application (FPA) for maps and more details.*

Type of Activity	How Many	Length (feet) (Estimated)	Acres (Estimated)	Fish Barrier Removals (#)
Construction		**7,924**	**4**	**0**
Reconstruction		**0**		**0**
Abandonment		**0**	**0**	**0**
Bridge Install/Replace	**0**			**0**
Culvert Install/Replace (fish)	**0**			**0**
Culvert Install/Replace (no fish)	**0**			

12. Location of proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. *(See timber sale map available at DNR region office, and/or color landscape/WAU map on the DNR website http://www.dnr.wa.gov under "SEPA Center.")*

a. Legal description:

Sections 23 and 24 of Township 16 North, Range 06 West, W.M.

b. *Distance and direction from nearest town (include road names):*

The proposed units are located approximately 14 miles northwest of Oakville following State Street, South Bank Road, Garrard Creek Road, Brooklyn Road and the T-Line forest road.

c. *Identify the watershed administrative unit (WAU), the WAU Sub-basin(s), and acres. (See also landscape/WAU map on DNR website http://www.dnr.wa.gov under " SEPA Center.")*

WAU Name	WAU Acres	Proposal Acres
Upper Chehalis/Rock Creek	27,245	213
Sub-basin #	**Sub-basin Acres**	**Proposal Acres**
5	4,729	213

13. *Discuss any known future activities not associated with this proposal that may result in a cumulative change in the environment when combined with the past and current proposal(s). (See digital ortho-photos for WAU and adjacency maps on DNR website http://www.dnr.wa.gov under "SEPA Center" for a broader landscape perspective.)*

The following table is an estimated summary of past and future activities on DNR-managed land and privately managed land in the Upper Chehalis/Rock Creek WAU. No attempt was made to predict future timber harvest on private ownerships within the WAUs. The source of this information only provided the acreage on the WAU level.

Upper Chehalis / Rock Creek Creek WAU	WAU ACRES/SUB-BASIN ACRES	ACRES OF EVEN-AGED HARVEST WITHIN THE LAST SEVEN YEARS	ACRES OF UNEVEN-AGED HARVEST WITHIN THE LAST SEVEN YEARS	PROPOSED ACRES OF EVEN-AGED HARVEST IN THE FUTURE	PROPOSED ACRES OF UNEVEN-AGED HARVEST IN THE FUTURE
DNR MANAGED LAND	**13,838 (51%)**	**260**	**11**	**801 (estimated)**	**0**
PRIVATE OWNERSHIP	**13,407 (49%)**	**1275**	**118**	**UNKNOWN**	**UNKNOWN**
TOTAL	**27,245**	**1535**	**129**	**UNKNOWN**	**UNKNOWN**

This proposal is located within the Upper Chehalis and Rock Creek WAUs. Agriculture and home sites are located in the valleys near the major streams. There appears to be a trend towards increasing conversion of agriculture and forest land to home sites in the low to mid elevation ranges. The uplands are mainly managed for timber production. Ownership includes large industrial forests, small private forests, and DNR managed forests. Forested stands within the WAUs appear to be primarily second and third growth stands. The numbers of forest practice activities shown on the WAU maps (referenced above on the DNR website) along with observations within the WAUs indicate that the WAUs are intensively managed for timber production, including regeneration harvest, thinning, and partial cuts.

The DNR has an HCP agreement with the federal government concerning threatened and endangered species and their habitats, which requires the Department to manage landscapes to provide and sustain long-term habitat quality. This agreement substantially helps the Department to mitigate for harmful cumulative effects related to management activities. The HCP was designed to protect and improve fish and wildlife species and their habitats over a broad regional area. The applicable HCP strategies incorporated into this proposal are as follows:

- **Retaining Riparian Management Zones (RMZs) and a Wetland Management Zones (WMZ) averaging 190 feet wide along type 3 streams 100 feet wide along the type 4 streams, measured from the outer edge of 100 year floodplains.**

- **Evaluating the proposal for potential slope instability.**
- **Retaining a minimum of 8 trees per acre (greater than 10 inches Diameter at Breast Height) clumped and scattered throughout the units.**
- **Analyzing, designing, and constructing roads to minimize affects on the environment.**
- **Retaining RMZs on type 3 and 4 streams to protect water quality, stream bank integrity stream temperatures and provide down woody debris. RMZs will develop older forest characteristics that, in combination with other strategies, will help support older forest dependant wildlife populations.**
- **An Equipment Limitation Zone (ELZ), a 30 foot wide strip measured from the ordinary high water mark, on type 5 streams located within**

The timber sale is not located within a NRF/dispersal management area, nor is it within the best 70 acre core of the site center, thus our HCP northern spotted owl conservation strategy does not identify this area within its recovery strategy and does not apply to this activity. This proposal lies within settlement agreement non-habitat and according to the state uplands HCP, no conservation prescriptions will apply to this harvest regarding northern spotted owls.

This proposal is located within the range of potential Bull Trout (federal listing: threatened, state listing: candidate) and Winter Steelhead habitat (federal listing: threatened, state listing: none). Potential habitat is protected by RMZ buffers on type 3 and 4 streams.

This proposal includes approximately 0.16 acres of reclassified, unoccupied marbled murrelet habitat. A MM Variance allows for the 0.16 acres to be harvested in order to build a landing and harvest approximately 7 acres of unencumbered timberland behind it.

To reduce the risk of potential erosion, road cut banks will be re-vegetated with native grass seed prior to the onset of wet weather to prevent sediment delivery and maintain soil stability. Potentially unstable slopes have been protected by removing approximately 0.5 acres from the originally proposed harvest area.

The strategy of retaining 8 trees per acre (greater than 10 inches Diameter at Breast Height) in the unit should provide legacy elements for recruitment of future snags, coarse woody debris, multi-layered stands, and large diameter trees. In combination, these features will provide elements of older forest habitat characteristics within the new plantation.

After harvest, tree seedlings will be planted to compliment natural regeneration that is expected to occur. Under story vegetation will be disturbed and/or reduced within the proposed harvest area as a result of timber felling, bucking, yarding and herbicide application. Most of the vegetation will robustly re-establish within 2 – 3 years.

A regular maintenance schedule will be followed to allow for proper road surface run-off and drainage. Haul routes for this proposal have been evaluated for potential environmental impacts. To assure sediment is controlled during hauling, crossdrains, sediment ponds, and other structures will be used to disconnect ditch water from flowing streams. Road ditch water will be routed to the forest floor for filtering prior to entering flowing watercourses. New road construction will be located on stable ridge-top locations. Road system analysis and design required under the HCP and analysis required under the Forest Practices RMAP process in the Lower Chehalis Block was completed and approved. Road improvement projects identified in the RMAP began in 2003.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (check one):

☐Flat, ☐Rolling, ☐Hilly, ☒Steep Slopes, ☐Mountainous, ☐Other:

1) General description of the WAU or sub-basin(s) (landforms, climate, elevations, and forest vegetation zone).

The Upper Chehalis/Rock Creek WAU ranges from approximately 35 to 1,783 feet in elevation and generally consists of hilly topography with moderate to steep slopes and numerous incised draws. The WAU receives approximately 45 to 60 inches of precipitation annually, the majority of which falls as rain. The primary timber type is Douglas-fir with red alder dominating the draws and lowlands. Secondary species include bigleaf maple, western red cedar, Sitka spruce and western hemlock. The WAU is located in the western hemlock vegetation zone.

2) Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).

The proposal area matches the general WAU description.

b. What is the steepest slope on the site (approximate percent slope)?

Unit	Steepest Slope
1	85%
2	85%

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland. *Note: The following table is created from state soil survey data. It is a roll-up of general soils information for the soils found in the entire sale area. It is only one of several site assessment tools used in conjunction with actual site inspections for slope stability concerns or erosion potential. It can help indicate potential for shallow, rapid soil movement, but often does not represent deeper soil sub-strata. The actual soils conditions in the sale area may vary considerably based on land-form shapes, presence of erosive situations, and other factors. The state soil survey is a compilation of various surveys with different standards.*

State Soil Survey #	Soil Texture or Soil Complex Name	% Slope	Acres	Mass Wasting Potential	Erosion Potential
0645	SILT LOAM	30-65	114	Medium	Medium
4719	SILT LOAM	8-30	33	Medium	Medium

The steepest slopes within the sale area reaching 85% were very short stretches that would likely be missed by the GIS slope modeling used in this area.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

1) *Surface indications:*

There are surface indications of unstable slopes within and adjacent to the proposal area and mainly occur as over-steepened stream banks with exposed mineral soils. After visiting the site with a state geologist no evidence of rule-defined features were found.

2) *Is there evidence of natural slope failures in the sub-basin(s)?*
☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*

There is evidence of slope failures within the sub-basin. These are generally associated with slopes greater than 70% within hollows that extend up to the mid-slope and occur most often within the RMZs, lower slopes of the main draws, and headwalls at the top of steep draws. A shallow landslide on the north portion of Unit 1 occurred along a type-5 stream adjacent to an RMZ. This section was bounded out of the harvest area to minimize any further disturbance.

3) *Are there slope failures in the sub-basin(s) associated with timber harvest activities or roads?*
☒*No* ☐*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*
Associated management activity:

4) *Is the proposed site similar to sites where slope failures have occurred previously in the sub-basin(s)?*
☐*No* ☒*Yes, describe similarities between the conditions and activities on these sites:*

The proposal area has some slopes that exceed 70% which is similar to those that have failed in other portions of the sub-basin, however, sites with these similar features were bounded outside of the harvest area.

5) *Describe any slope stability protection measures (including sale boundary location, road, and harvest system decisions) incorporated into this proposal.*

Road construction will occur only on ridgetops. Cross drain culverts and ditchouts will be utilized to minimize the potential for mass wasting and slope failure. Ground based harvest systems will not be allowed on slopes over 35%. Cable settings will require lead end suspension at minimum and full suspension when yarding over type 5 streams.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.
Approx. acreage new roads: **4** *Approx. acreage new landings:* **1** *Fill source:* **native material**

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Incidental erosion may occur resulting from the yarding of logs and the soils that are exposed during and after road construction. Prudent road location, road construction and maintenance and yarding restrictions will minimize possible erosion.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? *Approximate percent of proposal in permanent road running surface (includes gravel roads):*

Approximately 1% of the proposal area will be covered with impervious surfaces after completion.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:
(Include protection measures for minimizing compaction or rutting.)

<u>Measures to reduce or control erosion on roads or during active road construction:</u>
- **Roads will be out-sloped or crowned, ditched and cross-drained.**
- **Soils exposed during road construction may be grass seeded.**
- **Seasonal timing restrictions will prohibit road construction during wet weather conditions.**
- **Cross-drains will be installed and maintained.**
- **Sediment delivery will be addressed as needed during operations with the use of water bars or silt traps.**
- **There will be periodic maintenance and inspection of the road system to insure proper drainage.**
- **Road locations were specifically designed to avoid potentially unstable areas and water crossings.**

<u>Protection measures to reduce or control erosion associated with active logging operation:</u>
- **Ground-based yarding will be restricted to slopes less than 35%.**
- **The lead end of all logs will be suspended during all yarding operations.**
- **Tracked skidders will be allowed only during the months when dry soil conditions permit.**
- **Yarding will be directed away from RMZ boundaries.**

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust *from truck traffic, rock mining, crushing or hauling*, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Minor amounts of engine exhaust from logging and road construction equipment and dust from vehicle traffic on roads will be emitted. If landing debris is burned after harvest is completed, wood smoke will be generated. There will be no emissions once the proposal is complete.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

If landing debris is burned, it will be in accordance with Washington State's Smoke Management Plan. A burn permit will be obtained before burning occurs.

3. Water

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. *(See timber sale map available at DNR region office, or forest practice application base maps.)*

Yes.

a) Downstream water bodies:

Williams Creek, Rock Creek and the Chehalis River.

b) Complete the following riparian & wetland management zone table:

Wetland, Stream, Lake, Pond, or Saltwater Name (if any)	Water Type	Number (how many?)	Avg RMZ/WMZ Width in Feet (per side for streams)
Williams Creek	**3**	**1**	**190**
stream	**3**	**4**	**190**
stream	**4**	**12**	**100**
stream	**5**	**18**	**NA**

c) List RMZ/WMZ protection measures including silvicultural prescriptions, road-related RMZ/WMZ protection measures, and wind buffers.

RMZ widths averaging 190 feet wide, based upon a 136 site index, were measured horizontally from the edge of the 100-year flood plain have been placed around all associated type 3 streams. The type 4 streams have been buffered by a minimum 100-foot RMZ and a 30-foot equipment limitation zone will protect type 5 streams.

2) Will the project require any work over, in, or adjacent to (within 200 feet) to the described waters? If yes, please describe and attach available plans.
☐*No* ☒*Yes (See RMZ/WMZ table above and timber sale map available at DNR region office.)*
Description (include culverts):

Timber felling, bucking, cable yarding, cable hanging and tracked mobile yarding will take place within 200 feet of all type 5 waters. However, some leave tree clumps and a 30-foot Equipment Limitation Zone will prevent harvest activities from occurring within or adjacent to portions of type 5 streams. Any slash that may inadvertently enter type 5 streams will be cleaned out per contract requirements. Timber felling, bucking, cable yarding and tracked mobile yarding will take place as close as 100 feet away from type 4 streams. Harvest operations will remain 190 feet away from type 3 streams. Cables may be suspended over type 3 and 4 streams.

Trees may be cut and left in place within RMZs for safety or operational needs. Logs may be yarded across type 5 streams. The 30-foot equipment limitation zone will be observed. Water bars or other mitigation measures will be installed if greater than 10% of the soil is exposed within the zone.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

None.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. *(Include diversions for fish-passage culvert installation.)*
☒*No* ☐*Yes, description:*

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
☒*No* ☐*Yes, describe location:*

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
☐*No* ☒*Yes, type and volume:*

Minor amounts of logging slash may enter type 5 streams.

7) Does the sub-basin contain soils or terrain susceptible to surface erosion and/or mass wasting? What is the potential for eroded material to enter surface water?

Generally, the high potential areas associated with erosion or mass wasting are located on convergent slopes of 65% or greater and often involve unstable soils and/or steep head walls. Some past failures have entered streams. With the mitigating measures to be implemented, this proposal is not expected to contribute material to surface waters. See questions B.1.c, B.1.d, B.1.f, B.1.h, and B.3.a.9.

8) *Is there evidence of changes to the channels in the WAU and sub-basin(s) due to surface erosion or mass wasting (accelerated aggradations, erosion, decrease in large organic debris (LOD), change in channel dimensions)?*
☐*No* ☒*Yes, describe changes and possible causes:*

See question B.3.a.13 below.

9) *Could this proposal affect water quality based on the answers to the questions 1-8 above?*
☐*No* ☒*Yes, explain:*

This proposal could possibly introduce minor amounts of sediment into the streams adjacent to the proposal area as a result of road building and harvest operations during early stages of activity. The erosion control measures and operation procedures outlined in B.1.f and B.1.h are expected to minimize the chances of any sediment delivery.

10) *What are the approximate road miles per square mile in the WAU and sub-basin(s)?*
Are you aware of areas where forest roads or road ditches intercept sub-surface flow and deliver surface water to streams, rather than back to the forest floor?
☒*No* ☐*Yes, describe:*

WAU	Road Miles/ Miles^2
Upper Chehalis/Rock Creek	3.6

Road mileages for sub-basin 5 of the Upper Chehalis/Rock Creek WAU are unknown.

11) *Is the proposal within a significant rain-on-snow (ROS) zone? If not,* ***STOP HERE*** *and go to question B-3-a-13 below. Use the WAU or sub-basin(s) for the ROS percentage questions below.*
☒*No* ☐*Yes, approximate percent of WAU in significant ROS zone.*
Approximate percent of sub-basin(s):

12) *If the proposal is within the significant ROS zone, what is the approximate percentage of the WAU or sub-basin(s) within the significant ROS zone (all ownerships) that is (are) rated as hydrologically mature?*

13) *Is there evidence of changes to channels associated with peak flows in the WAU or sub-basin(s)?*
☐*No* ☒*Yes, describe observations:*

Normally, there are few significant changes associated with peak flows in the WAU or sub-basins. However, in the winters of 2007 and 2009, two 100-year plus events occurred. The rainstorm set rainfall and flood level records in Southwest Washington. The event caused many shallow mass-wasting events. Many stream channels were altered in this event due to extremely high stream flows with accompanying sediment loads and possibly large woody debris delivery. The full extent of this is not known.

14) *Based on your answers to questions B-3-a-10 through B-3-a-13 above, describe whether and how this proposal, in combination with other past, current, or reasonably foreseeable proposals in the WAU and sub-basin(s), may contribute to a peak flow impact.*

This proposal may slightly change the timing, duration, and amount of peak flow. Flow rates may increase slightly during low flow periods due to decreased transpiration and interception during the first decade of new forest growth. However, no cumulative impacts are expected since similar projects in the WAU have resulted in no noticeable increase in peak flows. See question B.3.a.16 below.

15) *Is there water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity that could be affected by changes in surface water amounts, quality, or movements as a result of this proposal?*
☒*No* ☐*Yes, possible impacts:*

16) *Based on your answers to questions B-3-a-10 through B-3-a-15 above, note any protection measures addressing possible peak flow/flooding impacts.*

- **The RMZ buffers described in question B.3.a.1.**
- **Restricting unit size to 100 acres or less.**
- **Allowing for green-up in immediately adjacent stands.**
- **Retention trees (at least 8 per acre).**
- **Any slash that enters a stream will be cleaned out per contract requirements. Further erosion control measures will be implemented if necessary.**
- **Cross-drains will be installed and maintained.**
- **Sediment delivery will be addressed as needed during operations and may include the use of water bars and silt traps.**
- **There will be periodic maintenance and inspection of the road system to insure proper drainage.**

b. Ground *Water*:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

Relief culvert drainage may increase ground water recharge directly below culvert outlets.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Minor amounts of oil, fuel, and other lubricants may inadvertently be discharged to the ground as a result of heavy equipment use or mechanical failure. No lubricants will be disposed of on-site. This proposed activity is expected to have no impact on ground water.

3) *Is there a water resource use (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or down slope of the proposed activity that could be affected by changes in groundwater amounts, timing, or movements as a result this proposal?*
☒*No* ☐*Yes, describe:*

a) Note protection measures, if any.

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Storm water runoff from roads and intercepted sub-surface flow will be collected by road ditches and ditch-outs and diverted onto the forest floor. Ditch-outs and cross-drain culverts will be placed to minimize the amount of ditch water directly entering existing stream channels.

2) Could waste materials enter ground or surface waters? If so, generally describe.

Minor amounts of oil, fuel, and other lubricants may inadvertently be discharged to the ground as a result of heavy equipment use or mechanical failure. No lubricants will be disposed of on-site.

a) Note protection measures, if any.

The potential for waste materials to enter ground or surface water is minimal because equipment operations are restricted in areas 190 feet from type 3 streams and 100 feet from type 4 streams. A 30 foot equipment limitation zone on type 5 streams will minimize impacts from ground-based equipment. Leave tree concentrations in and around type 5 streams will further reduce equipment operations in areas with potential to impact ground or surface water.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

See surface water, ground water, and water runoff sections above, questions B.1.h, B.3.a.1.c, B.3.a.16, B.3.b.3.) and B.3.c.2.a.

4. Plants

a. Check or circle types of vegetation found on the site:

☒deciduous tree: ☒alder, ☒maple, ☐aspen, ☐*cottonwood,* ☐*western larch,* ☐*birch,* ☐other:
☒evergreen tree: ☒*Douglas fir,* ☐*grand fir,* ☐*Pacific silver fir,* ☐*ponderosa pine,* ☐*lodgepole pine,* ☒*western hemlock,* ☐*mountain hemlock,* ☐*Englemann spruce,* ☒*Sitka spruce,* ☒*red cedar,* ☐*yellow cedar,* ☐other:
☒shrubs: ☒*huckleberry,* ☒*salmonberry,* ☒*salal,* ☒*other:* **Oregon grape, hazel, cascara, vine maple**
☐grass
☐pasture
☐crop or grain
☒wet soil plants: ☐cattail, ☐buttercup, ☐bullrush, ☐skunk cabbage, ☒*devil's club,* ☐other:
☐water plants: ☐water lily, ☐eelgrass, ☐milfoil, ☐other:
☒other types of vegetation: **sword fern, lady fern, maiden hair fern**
☐*plant communities of concern:*

b. What kind and amount of vegetation will be removed or altered? *(See answers to questions A-11-a, A-11-b, B-3-a-1-b and B-3-a-1-c. The following sub-questions merely supplement those answers.)*

Approximately 5,767 MMBF of Douglas-fir, western hemlock, western red cedar, Sitka spruce, red alder and bigleaf maple will be removed from the proposal area.

1) Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See landscape/WAU and adjacency maps on the DNR website at: http://www.dnr.wa.gov under "SEPA Center."

Adjacent timber is currently in the understory reinitiation phase composed of similar species and age as the units proposed for harvest. See question A.11.b. above.

2) Retention tree plan:

Unit	Distribution Method for Retention Trees and Snags	Acres in Clumps	Total Trees Left
1	Clumped & Scattered	5	448
2	Clumped & Scattered	7	728
	Total Leave Tree Acres	12	1,176

All units will have a minimum of eight wildlife and green recruitment leave trees per acre remaining on site upon completion of harvest activities. All retained trees will provide wildlife habitat. Leave trees were selected to retain snags, species diversity and large diameter trees. This timber sale was screened for potential old growth; no points indicating a moderate or high likelihood of old growth were located within or immediately adjacent to the proposal area.

c. List threatened or endangered *plant* species known to be on or near the site.

None found in database search.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Approximately 12 acres have been left in leave tree areas and 77 acres have been bound out in RMZs to preserve the existing vegetation in the proposal area.

5. Animal

a. Circle or check any birds animals *or unique habitats* which have been observed on or near the site or are known to be on or near the site:

birds: ☒hawk, ☐heron, ☐eagle, ☐songbirds, ☐*pigeon*, ☒other: **grouse**
mammals: ☒deer, ☒bear, ☒elk, ☒beaver, ☒other: **bobcat, coyote, cougar, porcupine**
fish: ☐bass, ☐salmon, ☒trout, ☐herring, ☐shellfish, ☐other:
unique habitats: ☐*talus slopes,* ☐*caves,* ☐*cliffs,* ☐*oak woodlands,* ☐*balds,* ☐*mineral springs*

b. List any threatened or endangered species known to be on or near the site *(include federal- and state-listed species).*

TSU Number	FMU_ID	Common Name	Federal Listing Status	WA State Listing Status
1	66764	SPOTTED OWL: Site:645-BLUE MOUNTAIN	THREATENED	ENDANGERED
1	66764	SPOTTED OWL: Site:1234-PIONEER CREEK-NORTH RIVER	THREATENED	ENDANGERED
2	66763	SPOTTED OWL: Site:645-BLUE MOUNTAIN	THREATENED	ENDANGERED

The timber sale is not located within a NRF/dispersal management area, nor is it within the best 70 acre core of the site center, thus our HCP northern spotted owl conservation strategy does not identify this area within its recovery strategy and does not apply to this activity. This proposal lies within settlement agreement non-habitat and according to our HCP, no conservation prescriptions will apply to this harvest regarding northern spotted owls.

This proposal is located within the range of potential Bull Trout (federal listing: threatened, state listing: candidate) and Winter Steelhead habitat (federal listing: threatened, state listing: none).

c. Is the site part of a migration route? If so, explain.
☒*Pacific flyway* ☐*Other migration route:* *Explain if any boxes checked:*

This proposal is located in the migratory waterfowl Pacific flyway within Pacific Northwest forests. The area in which this proposal is contained is not generally the type of area used for resting or feeding by migratory waterfowl. While migrating through Pacific Northwest Forests, many Neotropical migratory birds are closely associated with riparian areas, cliffs, snags, and structurally unique trees. Riparian areas and special habitats are protected through implementation of DNR's Habitat Conservation Plan.

d. Proposed measures to preserve or enhance wildlife, if any:

Clumped wildlife leave trees will be left at a frequency of eight trees per acre (greater than ten inches diameter at breast height) to help retain wildlife habitat. Reforestation will be accomplished after harvest. RMZs averaging 190 feet wide along type 3 streams and a minimum of 100 feet along a type 4 streams have been left to protect water quality, provide corridors for wildlife, and maintain habitat for fish, amphibians, reptiles, and other riparian obligate species.

1) Note existing or proposed protection measures, if any, for the complete proposal described in question A-11
Species /Habitat: **riparian/steelhead and bull trout habitat**
Protection Measures: **Type 3 streams were protected by an average RMZ buffer of 190 feet. The type 4 streams have been protected by a minimum 100-foot buffer. Type 5 streams that were not protected within a type 3 or 4 RMZs were protected with leave trees and equipment will be limited near type 5 streams by a 30-foot Equipment Limitation Zone.**

Note existing or proposed protection measures, if any, for the complete proposal described in question A-11
Species /Habitat: **Upland dependant species**
Protection Measures: **A total of 1,304 leave trees will be left clumped and scattered throughout both units 1 and 2.**

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

None.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

None.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

There is a minimal hazard incidental to operating heavy equipment. There is the possibility of fire ignition during the operating period, especially during fire season.

1) Describe special emergency services that might be required.

Fire suppression resources will be from DNR. Other emergencies (health, chemical spills) will be addressed by appropriate agencies.

2) Proposed measures to reduce or control environmental health hazards, if any:

No oil or lubricants will be disposed of on site. Fire tools and equipment will be kept on site during fire season. The cessation of operations may occur during periods when the risk of fire is unacceptably high.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

None.

2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from this site.

Minimal noise levels associated with logging operations and truck traffic. This traffic is consistent with the existing traffic. Noise will be increased on site during daylight hours, while operations are being conducted. No long-term impacts are anticipated.

3) Proposed measures to reduce or control noise impacts, if any:

None.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties? *(Site includes the complete proposal, e.g. rock pits and access roads.)*

Forest land management.

b. Has the site been used for agriculture? If so, describe.

No.

c. Describe any structures on the site.

None.

d. Will any structures be demolished? If so, what?

No.

e. What is the current zoning classification of the site?

Forest land.

f. What is the current comprehensive plan designation of the site?

Forest land.

g. If applicable, what is the current shoreline master program designation of the site?

N/A

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

No.

i. Approximately how many people would reside or work in the completed project?

None.

j. Approximately how many people would the completed project displace?

None.

k. Proposed measures to avoid or reduce displacement impacts, if any:

None.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

This proposal is consistent with the designated forest land classification.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

None.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None.

c. Proposed measures to reduce or control housing impacts, if any:

None.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principle exterior building material(s) proposed?

None.

b. What views in the immediate vicinity would be altered or obstructed?

None.

1) *Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?*
☒*No* ☐*Yes, viewing location:*

2) *Is this proposal visible from a major transportation or designated scenic corridor (county road, state or interstate highway, US route, river, or Columbia Gorge SMA)?*
☒*No* ☐*Yes, scenic corridor name:*

3) *How will this proposal affect any views described in 1) or 2) above?*

This proposal is visually similar to the surrounding landscape.

c. Proposed measures to reduce or control aesthetic impacts, if any:

Any aesthetic impacts will be mitigated by leave trees that have been left clumped and scattered throughout the units and by retaining RMZs.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

None.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No.

c. What existing off-site sources of light or glare may affect your proposal?

None.

d. Proposed measures to reduce or control light and glare impacts, if any:

None.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

Hunting, berry picking and other informal recreation activities are done within the vicinity.

b. Would the proposed project displace any existing recreational uses? If so, describe:

These activities may be temporarily displaced during operations.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

None.

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

No.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

A historic resource was observed on or next to the site.

c. Proposed measures to reduce or control impacts, if any:
(Include all meetings or consultations with tribes, archaeologists, anthropologists or other authorities.)

This proposal was screened for potential archaeological sites or artifacts using the P&T Special Concerns Report, GLO maps and on site visits during the pre-sales phase. The DNR archaeologist completed a report associated with this proposal.

In the event that any unknown archaeological resources are encountered, ground disturbing activities would be halted and our Agency Archaeologist would be contacted to survey the site and develop a Site Protection Plan.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

The proposal area will utilize State Highway 12, State Street, South Bank Road, Garrard Creek Road, Brooklyn Road and the T-Line forest road.

1) Is it likely that this proposal will contribute to an existing safety, noise, dust, maintenance, or other transportation impact problem(s)?

No.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No.

c. How many parking spaces would the completed project have? How many would the project eliminate?

None.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

See question A.11.c. for details.

1) How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?

This proposal does not significantly affect the current transportation system or traffic circulation. The proposal will increase access to non-roaded areas of DNR managed lands.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

During operations, approximately fifteen trips per day will be generated. Upon completion of the proposal, some vehicle trips will be required to reforest the area and maintain the roads and newly established plantation. Recreational vehicle traffic may increase.

g. Proposed measures to reduce or control transportation impacts, if any:

None.

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

No.

b. Proposed measures to reduce or control direct impacts on public services, if any.

None.

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

None.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

None.

C. **SIGNATURE**

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Completed by: Andy Geissler Forester 1 Date: July 20, 2009
Title

Reviewed by: Marcus A. Johns Prod. Sales Mgr. Date: 11/21/09
Title

Comments: _____